

WHAT IS CLAIMED IS

1. A dry surface treating apparatus comprising, within a treating chamber, a surface-treating material supply section and a tubular barrel having a porous peripheral surface for accommodating a work piece, to treat a surface of the work piece while rotating said tubular barrel horizontally arranged about a horizontal rotational axis, wherein said tubular barrel has a slide stop for stopping a slide of the accommodated work piece along an inner peripheral surface of said tubular barrel due to rotation of said tubular barrel.

2. An apparatus according to claim 1, wherein said tubular barrel is in a vertical sectional form with respect to the rotational axis having at least one corner at an internal angle of 30° to 100° , said corner being provided as said slide stop.

3. An apparatus according to claim 2, wherein said tubular barrel is in a vertical sectional polygonal form with respect to the rotational axis having at least three corners at internal angles of 30° to 100° , said corners being provided as said slide stops.

4. An apparatus according to claim 3, wherein said tubular barrel is in a vertical sectional form of a regular triangle with respect to the rotational axis.

5. An apparatus according to claim 3, wherein said tubular barrel is in a vertical sectional form of a square with respect to the rotational axis.

6. An apparatus according to claim 2, wherein said tubular barrel is in a vertical sectional form of a rhombus with respect to the rotational axis.

7. An apparatus according to claim 1, wherein said tubular barrel is in a vertical sectional form of a convex-formed curve in a part thereof with respect to the rotational axis.

8. An apparatus according to claim 7, wherein said tubular barrel is in a vertical sectional form of an ellipse or convex-formed lens with respect to the rotational axis.

9. An apparatus according to claim 1, wherein a protrusion is provided on an inner peripheral surface of said tubular barrel, said protrusion being made as said slide stop.

10. An apparatus according to claim 9, wherein said protrusion is provided at an angle of 30° to 100° to a tangential line on a forward side of rotation in the vertical sectional form with respect to the rotational axis of said tubular barrel.

11. An apparatus according to claim 9, wherein said protrusion is in any of a comb form, a plate form and rod form.

12. An apparatus according to claim 9, wherein said protrusion is provided one to seven in the number.

13. An apparatus according to claim 1, wherein said tubular barrel has an interior comprising a plurality of partitioned accommodating sections formed by division into two or more by partitioning members provided vertical to the rotational axis of said tubular barrel.

14. An apparatus according to claim 13, wherein said partitioning member is in a porous form structured by a linear member.

15. An apparatus according to claim 1, wherein said tubular barrel has an interior comprising a plurality of partitioned chambers formed by dividing into two or more the vertical sectional form with respect to the rotational axis of said tubular barrel.

16. An apparatus according to claim 15, wherein said partitioned chamber is in a vertical sectional form with respect to the rotational axis having at least one corner at an internal angle of 30° to 100° , said corner being provided as said slide stop.

17. An apparatus according to claim 13 or 15, wherein work pieces are accommodated in said partitioned

accommodating sections and/or partitioned chambers on a one-to-one basis.

18. An apparatus according to claim 1, wherein said porous peripheral surface is a mesh-formed peripheral surface.

19. An apparatus according to claim 1, wherein said porous peripheral surface is a slit-formed peripheral surface.

20. An apparatus according to claim 1, wherein said tubular barrels in plurality are annularly supported at a circumferential outward of the rotational axis of a support member rotatable about the rotational axis in a horizontal direction.

21. An apparatus according to claim 1, wherein said dry surface treating apparatus is a deposition apparatus.

22. An apparatus according to claim 1, wherein said dry surface treating apparatus is a blast treating apparatus.

23. A dry surface treating method for treating a work piece by using said dry surface treating apparatus according to claim 1.

24. A dry surface treating method according to claim 23, wherein said work piece is a rare earth metal-based permanent magnet in a plate or bow form.

25. A dry surface treating method according to claim 23, wherein said work piece is treated while being inverted of surfaces at said slide stop as a fulcrum.

26. A rare earth metal-based permanent magnet having been surface-treated by said dry surface treating method according to claim 23.